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ABSTRACT

Society's tolerance for all behaviors associated with the use of substances appears to be diminishing. The current wave of health awareness has created the pervasive attitude that anyone who engages in substance use has the potential for developing an obsessive addiction. Past research has provided evidence supporting the importance of personality, social, and environmental variables as predictors of substance use. This study integrated several of these variables into a comprehensive, conceptual framework designed to differentiate types of substance users and test simultaneously their relationship to substance use and abuse. Subjects included 104 adults from a random survey of household residents and 37 adults from substance abuse treatment programs. User status; substance use/quantity-frequency; disenchantment with ordinary life; control beliefs in life areas and substance use; personality hardiness; self-esteem; and positive/negative perceptions of personal, social and environmental conditions were assessed. Overall the results of the study provide strong support for the proposed model, linking motivations, intensity styles, and relationships with substances, along with various personality factors (e.g., self-esteem, personal control beliefs, hardiness, and need for stimulation/need for escape), and perceptions and appraisals of social-environmental conditions, to both substance use and abuse. Furthermore, the results of the study suggest that there are distinct differences with regard to these factors between non-users, users, abusers, and dependents. (Author/ABL)

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The Differentiation of Substance Users: An Analysis of Personality, Social, and Environmental Factors as They Relate to Substance Use and Abuse

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Abstract

Past research has provided substantial evidence supporting the importance of personality, social, and environmental variables as predictors of substance use. The present study integrates several of these variables into a comprehensive, conceptual framework designed to differentiate types of substance users and test simultaneously their relationship to substance use and abuse.

Overall, the results of this study provide strong support for the proposed model, linking motivations, intensity styles, and relationships with substances, along with various personality factors (e.g., self-esteem, personal control beliefs, hardiness, and need for stimulation/need for escape), and perceptions and appraisals of social-environmental conditions, to both substance use and abuse. Furthermore, the results of this study suggest that there are distinct differences with regard to these factors between non-users, users, abusers, and dependents.

Society's tolerance for all behaviors associated with the use of substances appears to be diminishing. The current wave of health awareness has created the pervasive attitude that anyone who engages in substance use has the potential for developing an obsessive addiction. However, not everyone who occasionally experiments or uses substances recreationally goes on to have an obsessive addiction. Why is it that some individuals continue to use alcohol or other drugs on an occasional or recreational basis without experiencing significant substance-related problems in their lives, while others develop relationships with substances that are abusive and problematic?

The research presented here was designed to examine the perceptions, expectations, and motivations of those individuals who engage in substance use in an effort to determine possible differences between those people who use substances on an experimental, occasional or recreational basis and those who are substance abusers or dependents. This study examined four groups of individuals who use substances: Non-Users (highly infrequent users), Users (recreational or circumstantial users), Abusers, and Dependents. The present research began with the assumption that there would be significant differences between the reasons for using substances, the intensity styles, the expectations, and the relationships with substances of these four groups. The study also examined various personality, social, and environmental factors to determine possible differences between these groups.

Background

Few studies have provided adequate empirical anchorage for the use of such key terms as "drug user", "dependency", and "abuser", and few specify the chronicity of drug use under investigation, estimate typical dosages, or frequency of use of the substances in their subjects (Spotts & Shontz, 1983). While it is critical to understand the distinctions between substance abusers and non-users, it would also seem important

to highlight the distinctions between those who use substances regularly on a "recreational" basis, and those who have gone on to become substance abusers and dependents. In what ways do these groups of individuals differ? Are their attitudes about life in general different? Do they differ in their perceptions about themselves and the events in their lives? Are their reasons and motivations for using substances different? A primary goal of this research was to create a paradigm for empirical anchorage of what constitutes a "non-user", "user", "abuser", and "dependent", and to create a comprehensive profile for each group.

The criteria established to distinguish nonpathological substance use from substance abuse by the DSM-III makes it a good place to begin when examining the distinctions between user types. However, a more comprehensive paradigm would seem to be in order. To begin with, the DSM-III established parameters focus primarily on substance abusers and dependents. While researchers in this area can readily determine who is an abuser or dependent from such criteria, established criteria for distinguishing the various types of substance *users* (e.g., experimental, infrequent, recreational, circumstantial) is lacking. In addition, such parameters are behaviorally-based and do not address the reasons, beliefs, attitudes, motivations or other aspects of substance users and abusers. And finally, the criteria established by the DSM-III does not hold predictive value.

In an effort to broaden the criteria for differentiating types of substance users the present study examines the following hypotheses:

1.) Reason/motivations for using substances will differ among the groups

It is postulated that **Non-Users** are motivated to use substances primarily by curiosity, a desire to experience an altered mood-state, or to participate in religious situations. It is hypothesized that **Users** take drugs and/or alcohol to enhance

creativity or enrich a social event. They view substances as a source of pleasure in the same way they view good food, sex, music or art.

It is postulated that **Abusers** and **Dependents** take drugs and/or alcohol in an attempt to escape a reality which they view as hopeless, frightening and unpleasant. Substances are used to seek relief and maintain a level of performance.

2.) Intensity styles of substance use (how much, when, and how often substances are used) will differ among the groups

It is hypothesized that **Non-Users** use substances under experimental or highly infrequent conditions. This is short-term, nonpatterned trial or occasional use usually within a social setting (e.g., a glass of wine during a special celebration) or specific situations such as religious rituals.

It is postulated that **Users** take substances primarily under recreational or circumstantial conditions. Recreational use occurs in social settings among friends or acquaintances who desire to share an experience which they define as both acceptable and pleasurable. Use occurs on a semi-regular or regular basis. Usage is voluntary and patterned, and tends not to escalate to more frequent or intense use patterns. Circumstantial use is generally motivated by a perceived need or desire to achieve a new and anticipated effect in order to cope with a specific problem, situation, or condition of a personal or occupational nature. Use is contained to instances of these special circumstances.

Abusers, it is postulated, tend to use drugs/alcohol under maintenance conditions. This consists of a patterned behavior at a high frequency and high level of intensity. Substance use often occurs daily, and consumption may be hazardous.

It is hypothesized that **Dependents** tend to use substances under the same conditions as Abusers, with the additional condition that there is a high degree of

dependency and drug/alcohol use often escalates to more frequent and intense patterns as time progresses.

3.) The types of relationships the groups have with drugs and/or alcohol will differ. That is, the groups will differ in their attitudes, perceptions, and expectations about substances

Following from the line of reasoning in Hypotheses 1 and 2, it is postulated that **Non-Users'** attitude about substances is such that drugs/alcohol should not be a regular part of everyday life.

Users, it is hypothesized, are likely to have a "take it or leave it" attitude about substances and are more likely to reject substances when the occasion is wrong. It is expected that for Users there is no compulsion for substance use and no frantic search for drugs or alcohol. For Users, the dangerous aspects of substance use are usually recognized and respected. Substance use is thought to almost always be a social experience for Users; drugs/alcohol are taken almost exclusively with friends or loved ones, and rarely when the User is alone. Users tend to feel no need to increase dosage and frequency; they are aware of the health trade-offs of using substances, and stay within limits in order to enjoy the experience. And finally, it is hypothesized that Users are not prone to present a burden to themselves or others as a result of their substance use. Because of their tendency to stay within limits with their substance use, they are more likely to avoid abusive patterns or behaviors that would lead to troubled lives.

It is postulated that **Abusers** have a pathological relationship with substances. It is hypothesized that Abusers either do not recognize or choose to ignore the dangerous aspects of their substance use and will tend to show little or no concern for the consequences of their health damaging behavior. For Abusers, substances are taken alone at least as often as when they are with others. It is postulated that Abusers do not

take substances as a source of pleasure, and they do not seek a temporary or occasional altering in state of consciousness as their User counterparts do. Rather, it is believed that Abusers more often seek a permanent "state of life" altering and use little to no restraint in their attempt to achieve this state. And finally, Abusers are prone to eventually present a burden to themselves and/or others. Abusive patterns of substance use are indicated by a serious interference with the individual's health, occupational functioning, and social relationships (Kaufman, 1976).

Dependents, it is hypothesized, have the same relationship with substances as do Abusers. In addition, to the pathological, compulsive use of substances however, Dependents also experience a need for more and more substances to fulfill their craving as time progresses--increased dosage and frequency is required to maintain a plateau.

4.) Users, Abusers, and Dependents suffer from the Disenchantment Syndrome--a set of perceptions and behaviors that form an identifiable pattern which is characterized by a dissatisfaction with ordinary reality. It is hypothesized that Users will differ in their perceptions and reasons for being dissatisfied with their lives (and thus for engaging in substance use) than their Abuser and Dependent counterparts.

Users, it is postulated, are individuals who have an unusually high and constant need for psychological stimulation. It is postulated that these individuals have a high need for adventure, a fear of boredom, and are high curiosity and pleasure-seekers. Everyday life does not offer the challenges and opportunities for risk-taking and adventure needed by these individuals, causing them to be dissatisfied or disenchanted with their ordinary reality. Such individuals experience substance use as a means for attaining this psychological stimulation. This "need for stimulation" aspect of the Disenchantment construct is expected to be prevalent among substance Users, and not for Non-Users, Abusers, or Dependents. (See Carrol, 1974; Kilpatrick, Sutker, & Smith,

1976; Murtaugh, 1971; Zuckerman, 1969; Zuckerman, 1972; Zuckerman, Bone, Neary, Mangelsdorff & Brustman, 1972).

Abusers and **Dependents**, it is hypothesized, are individuals who tend to be fatalistic in their views about life, seeing themselves as victims in an unfair world. They are individuals who tend to be self-destructive, and who practice self-deception to reject or deny reality. It is postulated that these individuals are dissatisfied with nearly all aspects of their daily reality. Because Abusers and Dependents tend to feel helpless to alter their situation, it is postulated that their reasons for substance use will reflect a need to escape from daily pressures and discomforts, and unpleasant, frightening or threatening events for which they perceive themselves victims of. Abusers and Dependents do not seek adventure or excitement from their drug use. Rather, they seek to distort reality and maintain a continued state of an "unreal" or less painful, drugged existence. This "need for escape" aspect of the Disenchantment Construct is expected to be prevalent among substance Abusers and Dependents, and not for Non-Users or Users. (See Spotts and Shontz ,1986.)

5.) Abusers and Dependents will tend to be more externally-oriented in their beliefs about personal control than their User and Non-User counterparts, and Users will tend to be more internal in their control beliefs than any of the other groups.

Abusers and **Dependents**, it is hypothesized, will tend towards externality in their control beliefs. It is believed that these individuals view themselves as passive victims in a world they perceive as unpleasant. They seek through substances to escape from the daily pressures, discomforts and unpleasantries of everyday life for which they feel unable to change or control.

It is postulated that **Users** will tend to be more internal in their beliefs about control than either Abusers, Dependents, or Non-Users. It is hypothesized that Users are individuals who are accustomed to being proactive in their attempts to satisfy their

pleasure-seeking way of life. It is expected that these individuals begin using substances initially because they feel a high degree of control over such behaviors. Users are aware that using substances has a potential to be health-damaging, but because of their higher than average sense of personal control, believe they can control the amount of damage that may result from using drugs/alcohol. It is expected that Users then, will tend towards being highly internally-oriented because they are individuals who actively seek to control their environment, sense of pleasure, and state of mind. (See Berzins & Ross, 1973; Calicchia, 1974; Carlisle-Frank, 1991a, 1991b; Carrol, 1968; Donavan & O'Leary, 1975; Gonzali, 1970; Goss & Morosko, 1970; Naditch, 1975; Nowicki & Hopper, 1974; Obitz & Swanson, 1976; Pryer & Distefano, 1977; Smithyman, Plant & Southern, 1974.)

6.) Users will tend to score higher in personality hardiness than Abusers, Dependents, and Non-Users.

It is hypothesized that because of the **User's** unusual need for psychological stimulation and constant change, and tendency to be high in curiosity-seeking and adventurousness, they will tend to score higher in hardiness than their Non-User, Abuser or Dependent counterparts. In addition, it is believed that because Users tend to feel they are in control and can influence life events, and because they seek out ways (such as substance use) to make their lives more interesting and enjoyable, they will tend to score higher in the types of coping strategies and cognitive appraisals indicative of high hardiness than either Abusers or Dependents. (See Kobasa, 1979; Maddi & Kobasa, 1984.)

7.) Users will tend to have higher levels of self-esteem overall than their Abuser or Dependent counterparts. Non-Users are expected to score moderately in self-esteem.

Because high levels of self-esteem have been shown to have a significant relationship with creativity, and because other indicators include assuming an active

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role in social groups, maintenance of realistic images of one's capabilities, and realization of personal control and attainment of personal goals (Coopersmith, 1967) it is believed that Users will tend to maintain these characteristics and subsequently score higher overall in self-esteem levels than Abusers or Dependents.

Abusers and **Dependents** are thought to view themselves as helpless and inferior, and as lacking the inner resources to tolerate or to reduce the anxiety readily aroused by everyday events and stress. Individuals with such perspectives are thought to have a low sense of self-esteem (Rogers & Dymond, 1954). It is hypothesized that **Non-Users** will tend to score moderately on self-esteem. (See Ahlgren & Norem-Hebeisen,1979; Allen,1969; Armstrong and Hoyt,1963; Beckman,1978; Berg,1971; Braucht, Brakarsh, Follingstad & Berry, 1973; Brehm and Back,1968; Chafetz, Blane & Hill, 1970; Charalampous, Ford, & Skinner,1976; Clinebell, 1968; Connor, 1962; Coopersmith, 1967; Gordon, 1968; Gossop, 1976; Jones, 1971; Mukherjie and Scherer,1970; Sands, Hanson & Sheldon, 1967; Scherer, Ettinger & Mudrick, 1972; Vanderpool,1969.)

8.) Abusers and Dependents will tend more often to view their social, environmental, and personal conditions (family issues, crowding, noise pollution, job change, neighbors, etc.) as negative (hassles) and less often as positive (uplifting) than Users and Non-Users.

Adaptive coping to life events depends in part on how individuals perceive and appraise their encounters with the environment with regard to the potential for threat, harm, loss, or challenge. The encounters that seem the most salient are those common experiences that occur in our everyday lives which are often seen as hassles and uplifts (Lazarus & Folkman, 1984).

An individual's perceptions and appraisals reflect environmental circumstances, as well as personality characteristics, and beliefs about the self and the world (Lazarus & Folkman, 1987). It is postulated that substance **Abusers** and **Dependents** may be

especially vulnerable to negative perceptions and appraisals of such circumstances, and are therefore more likely to perceive their social, environmental, and personal conditions as negative (hassles) and less often as positive (uplifting) than Users and Non-Users.

Methods

Sample

Subjects in this study consisted of 141 adults; 104 subjects were drawn from a random sample survey of 200 household residents in Orange and Los Angeles County, California, and thirty-seven subjects were randomly selected residents of substance abuse treatment programs.

Subjects in the present study ranged in age from 19 to 94 (M-43 years, SD-15.7). Sixty percent of the subjects were male. The overall completion rate was 56.4%

Procedures

Self-administered portions of a structured composite questionnaire were mailed to the household resident subjects. The interview-administered portion was conducted via telephone interviews of respondents after the self-administered portion had been received by return mail. Treatment center residents were administered the interview portion in private after the self-administered portion was completed.

Measures

Measures were administered in a fixed order. Except for the DIS which was interviewer-administered, all measures in the present study were self-administered.

User status. Subjects were administered questions from the National Institute of Mental Health Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, Williams, & Spitzer, 1981).

Substance use/quantity-frequency. Questions were adopted from the Substance Use Frequency Measure (National Institute on Drug Abuse; Johnston, O'Malley, & Bachman, 1985).

Disenchantment with ordinary life. The measure used was the Disenchantment Measure. This measure is comprised of two scales to measure the components of Disenchantment. The first scale measures the degree to which subjects experience dissillusionment or disenchantment in their lives overall. This scale is concerned with the two aspects of disenchantment (need for psychological stimulation and need for escape) in terms of the subjects' general, overall perspective about their lives. The scale is designed to examine the level of disenchantment in non-users as well as those subjects who engage in substance use behaviors.

The second scale in the Disenchantment Measure is designed to determine the level and type of disenchantment experienced by Users, Abusers, and Dependents of substances. Need for psychological stimulation and need for escape was determined by examining the motivations, types of relationships (i.e., attitudes, perceptions and expectations about substances) and intensity styles (i.e., how much, when, and how often) of those individuals who engage in the health-damaging behavior of substance use. The Disenchantment scale has been shown to be reliable in two previous pilot studies at .933 (Kuder-Richardson).

Control beliefs in life areas. The scale used was the control in life areas scale (COLA). This scale was created to measure orientation of personal control in four major domains or life areas: (1) Institutional, (2) Personal Achievement and Goal Attainment, (3) Interpersonal Relationships, and

(4) Personal Health Habits, as well as a general, overall measure of perceived personal control. The COLA Scale has been shown to be reliable in three previous pilot studies. The reliability scores for the subscales range from .437 to .736.

Control beliefs within the specific area of substance use. The scale used was the Substance Use Control Orientation Scale (SUCOS). This scale was designed to measure control orientation within the specific context of substance use. The items in this scale examine individuals' beliefs concerning their ability to influence and control the various aspects of their personal substance use behaviors, and their willingness to act on those beliefs. The SUCOS has been shown to be reliable in two previous pilot studies, with a coeffecient alpha of .898.

Personality Hardiness. This was measured by the Hardiness Measure/Personal Views Survey.

Self-esteem. Subjects were administered the adult version of the Coopersmith's Self-Esteem Inventory (SEI).

Positive/negative perceptions of personal, social, and environmental conditions. Subjects were administered the Hassles and Uplifts Scale (Lazarus & Folkman) to measure frequency, intensity, and perceived positivity or negativity of social, environmental, and personal life events. The measure used was the Combined Scale (hassles and uplifts).

Results

Comparison of Groups

The present study examined the following four classifications of individuals: (1) Non-Users (Experimental/Highly Infrequent Users); (2) Users (Recreational/Circumstantial); (3) Abusers; (4) Dependents. Quantitative parameters for these classifications involved using a two-prong process: (1) Frequency parameters, and (2) Behavioral parameters.

Reasons/Motivations for substance use

The overall ANOVA yielded a highly significant difference in scoring between the four groups, $F(3,137)=35.95$, $p=.0001$. To locate the source of these effects an analysis of variance was again used to analyze comparisons of the groups. Results from the ANOVA rendered significant differences in the expected direction. Results were as follows: Users x Abusers, $F(1,103)=16.69$, $p<.005$; Users x Dependents, $F(1,105)=24.49$, $p<.0005$; Abusers x Non-Users, $F(1,32)=7.97$, $p<.01$; Non-Users x Dependents, $F(1,34)=10.76$, $p<.0025$.

Intensity of substance use

An ANOVA yielded an overall highly significant difference in scoring between the four groups, $F(3,137)=30.46$, $p=.0001$. An ANOVA was also used to locate the source of these effects by analyzing comparisons of the groups; the ANOVA again rendered the expected significant results: Users x Abusers, $F(1,103)=4.21$, $p<.05$; Users x Non-Users, $F(1,87)=4.06$, $p<.05$; Users x Dependents $F(1,105)=24.07$, $p<.0005$; Abusers x Non-Users, $F(1,32)=6.29$, $p<.025$; Abusers x Dependents, $F(1,50)=5.02$, $p<.05$; Non-User x Dependent $F(1,34)=17.20$, $p<.0005$.

Relationships with Substances

An ANOVA again yielded an overall highly significant difference in scoring between the four groups, $F(3,137)=39.10$, $p=.0001$. Comparisons between groups showed a significant difference as

predicted, Users x Abusers F(1,103)-13.91, p<.0005; Users x Dependents, F(1,105)-30.58, p<.0005; Abusers x Non-Users, F(1,32)-6.47, p<.025; Non-Users x Dependents, F(1,34)-12.57, p<.001.

Disenchantment Syndrome: Need for Stimulation

In order to see if the Need for Stimulation and Need for Escape variables were negatively related as predicted, a regression analysis was performed. As expected, there was a highly significant negative relationship between these two variables, r-.51, p-.0001, beta--.559.

An analysis of variance was used to determine the overall differences between the groups on Need for Stimulation. The ANOVA yielded an overall highly significant difference in scoring between the four groups, F(3,137)-9.28, p-.0001. An ANOVA was then used to analyze the comparisons of the groups on Need for Stimulation. Because Abusers, Dependents, and Non-Users were not expected to suffer from a Need for Stimulation, it was expected that these three groups would not differ significantly in their scores. The results rendered from the ANOVA were consistent with this hypothesis. Abusers x Non-Users, F(1,32)-.095; Abusers x Dependents, F(1,50)-.156; Non-Users x Dependents, F(1.34)-.357.

Likewise, because Users were expected to suffer from Need for Stimulation, it was expected that this group would differ significantly from the other groups. As predicted, the ANOVA rendered results in the expected direction. The following significant differences resulted from the group comparisons. Users x Abusers, F(1.103)-5.51, p<.025.

Disenchantment Syndrome: Need for Escape

An analysis of variance was used to determine the overall differences between the groups on Need for Escape. The ANOVA yielded an overall highly significant difference in scoring between the four groups, F(3,137)-49.43, p-.0001. An ANOVA was used to analyze the group comparisons on Need for Escape. Because Non-Users and Users were not expected to suffer from a Need for Escape, it was predicted that these two groups would not differ significantly on their scores. The results from the ANOVA were as expected, Users x Non-Users, F(1,87)-.934. In addition, because Abusers and Dependents were both predicted to suffer in similar ways from the Need for Escape, it was not expected that they would significantly differ in their scores. The results were as expected, Abusers x Dependents, F(1,50)-.977.

Further results from the ANOVA were significant as expected, Users x Abusers, F(1,103)-26.88, p<.0005; Users x Dependents, F(1,105)-37.91, p<.0005; Non-Users x Dependents, F(1,34)-4.24, p<.05.

Personal Control Beliefs

The control beliefs data were derived from two scales: SUCOS to measure control beliefs within the specific context of substance use, and COLA to measure control beliefs in multiple life domains (including Health Habits). The SUCOS data were analyzed using an analysis of variance (ANOVA). The overall ANOVA yielded a highly significant difference in scoring between the four groups, F(3,137)-37.48, p-.0001. To locate the source of these effects an analysis of variance was again used to analyze group comparisons. The results of the ANOVA supported the prediction that Abusers and Dependents would not differ significantly in this area; Abusers x Dependents, F(1,50)-1.47. Additionally, it was expected that Users and Non-Users would tend to be internally-oriented in this area and were not expected to significantly differ in their responses. Again, the results supported this prediction, Users x Non-Users, F(1,87)-.272.

In keeping with this set of predictions, it was postulated that the other group comparisons would differ significantly in their responses. Results from the ANOVA supported these predictions, Users x Abusers, F(1.103)-14.99, p<.0005; Users x Dependents, F(1.105)-30.24, p<.0005; Non-Users x Dependents, F(1,34)-7.31, p<.025.

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Control Beliefs in Life Domains

Institutions. Data were analyzed using an ANOVA which yielded a highly significantly overall difference in scoring between the four groups, $F(3,137)=13.63$, $p=.0001$. As predicted, Dependents and Abusers scored more externally on their control beliefs in this area, Users scored more internally, and Non-Users scored in-between Dependents/Abusers and Users.

The results of an ANOVA showed significant differences between Users and Abusers, $F(1,103)=3.97$, $p<.05$; and between Users and Dependents, $F(1,105)=12.58$, $p<.0005$. Results for the other group comparisons were not at significant levels.

Interpersonal relationships. These data were also analyzed using an ANOVA which yielded highly significant differences in scoring between the four groups overall, $F(3,137)=10.61$, $p=.0001$. Again, the Dependents and Abusers scored more externally on their control beliefs in this area, Users scored more internally, and Non-Users scored in-between.

An ANOVA showed significant differences between Users and Dependents, $F(1,105)=9.63$, $p<.0025$. Results for the other group comparisons were not at a level of significance.

Personal achievements. An ANOVA yielded an overall highly significant difference in scoring between the four groups, $F(3,137)=6.75$, $p=.0003$. Again, Users scored more internal, and Dependents and Abusers more external, with Non-Users scoring in-between Users and Dependents/Abusers. Significant differences were shown between Users and Dependents, $F(1,105)=5.19$, $p<.025$. Again, results for the remaining group comparisons were not significant.

Health habits. Data were analyzed using an analysis of variance. No significant differences in scorings between the groups were found.

Personality Hardiness

The hardiness scores were standardized and the overall mean was 71.95 (S.D.=14.98). An overall mean score for Challenge was 33.80 (S.D.=7.85), Commitment had a mean of 35.57 (S.D.=9.62), and Control had an overall mean of 38.41 (S.D.=7.21).

The data were analyzed using an analysis of variance (ANOVA) which yielded a highly significant difference in scoring between the four groups, $F(3, 137)=28.51$, $p=.0001$. An ANOVA was also used to analyze the group comparisons to locate the source of these effects. These results rendered significant differences in the expected direction for only two of the group comparisons, Users x Abusers, $F(1,103)=11.45$, $p< .0025$, and Users x Dependents, $F(1,105)=23.33$, $p< .0005$. No significant differences were found in overall hardiness scoring for the remaining group comparisons. However, while the remaining group comparisons did not reach significance, as predicted, the results were in the expected direction. Users had the highest levels of hardiness, Abusers and Dependents scored the lowest in hardiness levels, and Non-Users had hardiness scores in-between those of Users and Abusers.

Self-Esteem

Analysis of variance was used to analyze the data. The overall ANOVA yielded a highly significant difference in scoring between the four groups, $F(3,137)=19.98$, $p=.0001$. To locate the source of these effects an ANOVA was again used to analyze group comparisons.

Results from the ANOVA rendered significant differences in the expected direction. Results were as follows: Users x Abusers, $F(1,103)=11.01$, $p<.0025$; Users x Dependents, $F(1,105)=13.70$, $p<.0005$; Abusers x Non-Users, $F(1,32)=4.55$, $p<.05$; Non-Users x Dependents, $F(1,34)=5.08$, $p<.05$.

As predicted, the results indicate that Users had the highest levels of self-esteem, Abusers and Dependents had the lowest levels of self-esteem, and Non-Users' self-esteem levels were in-between those of Users and Abusers/Dependents.

Social, Environmental, Personal Factors

Hassles/negative events.

An ANOVA yielded an overall highly significant difference in scoring between the four groups in the frequency measure of hassles. $F(3,137)=24.27$, $p=.0001$. An ANOVA was also used to locate the source of these effects by analyzing group comparisons of reported frequency of negative events (hassles). As expected, there was not a significant difference between Abusers' and Dependents' scoring in this area. It was however, expected that other group comparisons would differ significantly in this area. The ANOVA again rendered the expected significant results: Non-Users x Abusers, $F(1,32)=9.30$, $p<.005$; Non-Users x Dependents, $F(1,34)=6.33$, $p<.025$; Users x Abusers, $F(1,103)=16.32$, $p<.0005$; Users x Dependents, $F(1,105)=10.13$, $p<.0025$.

As well as reporting a greater frequency of negative social, environmental, and personal events, it was also expected that Abusers and Dependents would be more likely to report these hassles with greater intensity and severity than Users or Non-Users. The results from the ANOVA once again supported this prediction. The ANOVA yielded an overall highly significant difference in scoring between the four groups, $F(3,137)=19.42$, $p=.0001$. Again, as predicted, there was no significant difference between the reported scores of Abusers and Dependents. Also as predicted, there was a significant difference between the scores of the other group comparisons. The ANOVA rendered the following significant results: Non-Users x Abusers, $F(1,32)=13.09$, $p<.0025$; Non-Users x Dependents, $F(1,34)=11.95$, $p<.0025$; Users x Abusers, $F(1,103)=7.37$, $p<.01$; Users x Dependents, $F(1,105)=6.01$, $p<.025$. Of particular interest was the fact that Users reported greater intensity (though not greater frequency) of perceived hassles, and this resulted in a significant difference in scoring between Users and Non-Users, $F(1,89)=4.98$, $p<.05$.

Uplifts/positive events.

An analysis of variance was again used and yielded an overall highly significant difference in group scoring in the frequency measure of uplifts, $F(3,137)=13.74$, $p=.0001$. An ANOVA was then used to analyze group comparisons of reported frequency of positive events (uplifts). Again, as expected, there was no significant difference between Abusers' and Dependents' scores in this area. However, as predicted, other group comparisons were found to show significant differences, Non-Users x Abusers, $F(1,32)=5.28$, $p<.05$; Non-Users x Dependents, $F(1,34)=5.27$, $p<.05$; Users x Abusers, $F(1,103)=7.03$, $p<.01$; Users x Dependents, $F(1,105)=7.21$, $p<.01$.

In addition to a greater frequency of reported positive life events, Users and Non-Users also reported these uplifts with greater intensity than did Abusers and Dependents. The results from an ANOVA yielded an overall highly significant difference in scoring between the four groups, $F(3,137)=60.61$, $p=.0001$. Again, as predicted, there was no significant difference between the reported scores of Abusers and Dependents. Also as predicted, there was a significant difference between the scores of the other group comparisons. The ANOVA rendered the following significant results: Non-Users x Abusers, $F(1,32)=4.25$, $p<.05$; Non-Users x Dependents, $F(1,34)=4.33$, $p<.05$; Users x Abusers, $F(1,103)=36.54$, $p<.0005$; Users x Dependents, $F(1,105)=38.70$, $p<.0005$. Again, another interesting, unexpected result occurred: Users reported greater intensity of perceived uplifts than Non-Users. This resulted in a significant difference in scoring between Users and Non-Users, $F(1,89)=5.11$, $p<.05$. Users then, reported both hassles and uplifts with greater *intensity* than Non-Users.

Discussion

This research tested some basic assumptions derived from a social-ecological perspective regarding the etiology of substance use and abuse. Overall, the results of this study provide strong support for the proposed model, linking motivations, intensity styles and relationships with substances, along with various personality factors and perceptions of social-environmental conditions to substance use and abuse. The results of this study suggest that there are distinct differences with regard to these factors between non-users, users, and abusers/dependents. More specifically, according to the ANOVAs, nearly all of the factors tested emerged as powerful explanatory individual variables, contributing to the differentiation of substance use and substance abuse via direct and indirect pathways. Specifically, these ANOVA data reveal that individuals classified as non-users are motivated to use substances primarily by curiosity, for religious purposes, or for an infrequent desire to experience a pleasure-oriented mood state. Those individuals who are classified as users are motivated to use substances primarily for socially-inspired or pleasure-oriented reasons. In contrast to the more pleasure-oriented reasons of non-users and users, abusers and dependents are motivated to take substances for escape-oriented reasons: to seek relief, and to maintain a level of performance in order to make it through day-to-day life.

Intensity styles of substance use also emerged as an important explanatory variable. The data reveal that non-users use substances under experimental or highly infrequent conditions. Their use is short-term, nonpatterned trial, or occasional use within religious or social settings. Users take substances primarily under recreational or circumstantial conditions. When use is recreational in nature it usually occurs in social settings on a semi-regular or regular basis. Usage is voluntary and patterned

and use patterns tend not to escalate in frequency or intensity. Circumstantial use is contained to special circumstances. Abusers were found to use substances under maintenance conditions. Usage is patterned, and at high levels of frequency and intensity. Dependents were found to use substances under the same conditions as abusers, and also to experience dependency such that tolerance levels were reported to escalate.

The data also reveal a difference in the groups with regard to the types of relationships they have with substances. More specifically, the groups differed in their perceptions, attitudes, and beliefs about substances. Users and non-users were similar in their beliefs that substances should not be a regular part of everyday life and in their "take it or leave it" attitude about substances. Users more often accept substances from others, and recognize and respect the dangerous aspects of substance use. Users were also found to consider substances primarily as a vehicle for enhancing a social experience. Increases in dosage and frequency are not necessary, and the health trade-offs are usually recognized by this group. Users tend to stay within self-recognized limits in order to enjoy the experience of their usage, and abusive patterns or behaviors are avoided. The results also indicate that abusers and dependents are similar in their perceptions and attitudes about drugs and alcohol. The relationship abusers and dependents have with substances is a pathological one--dangerous aspects of substances and substance use are not recognized and neither of these groups were found to show concern for the consequences of their health damaging behaviors. Both abusers and dependents take substances while alone as often as when they are with others, and both groups tend to eventually present a burden to themselves and others as a result of their usage behaviors. Abusers and dependents tend not to take substances as a source of pleasure. Rather, their usage is escape-oriented in an effort

to achieve an altering of everyday existence--commonly, little or no restraint is used to attain this state.

Also of importance were the data findings regarding the Disenchantment Syndrome of users, abusers, and dependents. Results indicate that all three of these groups tend to have a dissatisfaction with ordinary reality, but that users differ in their perceptions and reasons for being dissatisfied with their day-to-day lives (and thus for engaging in substance use) from abusers and dependents. The data revealed that users have an unusually high and constant need for psychological stimulation, showing signs of a high need for adventure, a fear of boredom, and are high curiosity and pleasure seekers. Users report that everyday life does not offer the challenges, adventures, and opportunities for risk-taking they need for psychological stimulation. These individuals experience substance use as a means for attaining this psychological stimulation. The data revealed that abusers and dependents are dissatisfied with nearly all aspects of their daily reality. They tend to be fatalistic in their views about life, and see themselves as helpless victims in an unfair world. Abusers and dependents tend to be self-destructive and rather adept in their ability to reject or deny reality. The Disenchantment Syndrome manifests itself with abusers and dependents by way of a need to escape from daily pressures and discomforts, and perceived unpleasant or threatening events. The results suggest that abusers and dependents take substances as a way to distort reality and maintain a continued state of a less painful, drugged existence. Non-users were not linked with either a need for stimulation or a need for escape.

The data has demonstrated then, that substance users are clearly differentiated in the areas of reasons, intensity, and relationships with substances. In addition, the Disenchantment Syndrome (the need for stimulation and the need for escape) appears to be linked with user-status group affiliation as well. One implication of these

findings is that these variables may be indicative of specific personality types. In particular, the need for stimulation and need for escape aspects of the Disenchantment Syndrome may prove to be stable personality correlates that are identifiable factors in distinguishing user types. A more important implication from these results however, is the predictive value these factors hold. The reasons and motivations for substance use, intensity styles, and relationships individuals have with substances, along with their Disenchantment status, may be a valuable predictor of who will be a non-user or user, and who may be headed for abuser or dependent status long before behavioral aspects may be detected from more traditional diagnostic tools such as the DIS.

Among the personality variables measured here, personal control beliefs also emerge as a useful explanatory variable for predicting user status, particularly with regard to control beliefs in the specific area of substance usage. Here, data revealed that abusers and dependents were externally-oriented in their beliefs about their ability to control or moderate their use of substances, and their ability to stop usage and/or maintain a life free of substances. Abusers and dependents differed significantly in this area from non-users and users, who were clearly internally-oriented with regard to personal beliefs about their ability to control their use of substances.

Caution should be used when interpreting the results of abusers' and dependents' personal beliefs about control. Because many of the abuser and dependents in this study were actually participating in substance abuse treatment programs, it is possible that the stage of treatment individuals were in at the time the control measures were taken may have affected their control beliefs. For instance, these individuals may initially believe they have little or no control over their substance use behaviors when they begin treatment. (This may be why they seek outside help to begin with.) As they progress through the program and become educated as to how their use-behaviors

adversely affect their lives they may move out of 'denial' and come to perceive a level of control over their substance use behaviors. However, if, as in the present study, individuals are participating in a 12-step program, they may eventually come to view their alcoholism, for instance, as something which they are 'powerless over' and that they must 'turn it over to a higher power'. It is possible at this point that control beliefs would again head towards externality (Thompson, Cheek, & Graham, 1988). Therefore, conclusive interpretations regarding the control beliefs of this population are limited with regard to the treatment process and its potential to influence such beliefs.

Control beliefs in life domains also emerge as a useful explanatory variable for indirectly predicting user status, but only within the areas of Institutional factors, Personal Achievements, and Interpersonal Relationships. In these domains, data revealed that dependents and abusers were more externally oriented in their control beliefs, users scored more internally, and non-users scored in-between abusers/dependents and users. Though definite trends emerged as to the groups' standing in control beliefs, when the groups were compared individually, these differences failed to reach significance. One explanation for these results could be that the sample size was too small for the results to reach significance. Because each of the subscales measuring the four domains averages about six questions each, it is possible that the error variance is such that significant findings will not emerge until the amount of respondents is increased.

The final domain, Health Habits, might have failed to reach significance for the same reason given above. However, because the other three domains revealed that users and non-users tended to be internal, while abusers and dependents tended towards externality, the fact that this trend was not present for Health Habits deserves some discussion here. It is possible that abusers and dependents were actually

internally-oriented in the domain of Health Habits, while tending to be externally-oriented in the other three life domains. This could be explained by the fact that abusers and dependents have had many years to discover that what they do to their bodies with substances does indeed have a detrimental effect on their health and well-being. Therefore, these two groups may come to see a direct connection between their behavior and their health status. It would not be surprising therefore, that abusers and dependents would come to view health habits as something in which they did have a great deal of control over--whether they actually exercise that control in a facilitative manner or not.

Personality hardiness also emerges as a useful variable in predicting user status. While distinctions between groups did not always reach significance, the data did reveal that the relationship between personality hardiness and substance use was in the direction predicted. Dependents were the lowest in hardiness, with abusers close behind. Additionally, it is especially interesting that as predicted, users scored higher in overall hardiness than their non-user counterparts. While hardiness did not prove to be a particularly powerful predictor of user classification, the direction of the responses suggest that a larger sample size might prove to be quite valuable.

Self-esteem emerged as a powerful explanatory variable for predicting user status. Users have significantly higher levels of self-esteem, with non-users falling in a moderately high range, while abusers and dependents have very low levels of self-esteem. While the low self-esteem scores of abusers and dependents may seem to make sense at an intuitive level given the previous results, it must be remembered that many of these individuals were involved in a treatment program. Again, caution should be exercised when interpreting the results of abusers' and dependents' self-esteem scores, as treatment stages may influence the self-concepts of these individuals (Gossop, 1976). In addition, the fact that no significant differences were found between males and

females in the abuser and dependent groups may be attributed to the small sample sizes, or it may be that in fact, no real differences exist between the sexes under treatment setting conditions.

And finally, perceptions of social, environmental, and personal conditions emerge as yet another important explanatory variable. Abusers and dependents more often perceive social, environmental, and personal conditions (e.g., crowding, noise pollution, challenges with work/employers, family issues, neighbors) as negative hassles with greater frequency and greater severity than users or non-users. Given the previous results in this study concerning the characteristics of abusers and dependents, it is not surprising that these two groups perceive the events in their daily lives as negative. What was surprising however, was the fact that the data revealed users to report hassles with greater intensity (though not greater frequency) than non-users. Because users also reported greater intensity (and greater frequency) of conditions as positive uplifts, it is possible that users perceive all aspects of their lives with more intensity than the average non-user. The results of this study reveal that users seek out adventure, stimulation, and excitement; it is possible that their perceptions of social, environmental, and personal conditions as being highly intensive are consistent with the previous findings. The data also reveal that abusers and dependents perceive life conditions less often as positive uplifts in both frequency and intensity than either users or non-users. Again, based on the previously reported results in this study, it is not surprising that individuals who view themselves as victims in a hostile world would not perceive the social, environmental, and personal events in their lives as particularly uplifting.

The overall results from the this study indicate that there is a clear differentiation between non-users, users, abusers, and dependents across many areas. Beyond the more obvious distinctions however, lie more subtle implications. For example, these

data suggest that those individuals who are defined as experimental or highly infrequent non-users, and those defined as recreational or circumstantial users are *significantly* different in their personalities, perceptions, attitudes, expectations, and motivations regarding substances (as well as life in general) from abusers and dependents. This would seem to suggest that non-users and users would tend to develop stable use behaviors throughout their lifetime. That is, the data suggest that non-users and users would be unlikely candidates for becoming abusers or dependents unless their levels of self-esteem, personality hardiness, perceptions of personal control and perceptions about social and environmental factors, along with their reasons, intensity styles, and relationships with regard to substances shifted over time. While this is certainly possible, it would seem to be an unlikely event; researchers who have examined these factors have argued that these personality variables tend to remain stable over time (Coopersmith, 1967; Kobasa, 1979; Kanner, Coyne, Schaefer, & Lazarus, 1981). Though it is possible of course, that substance use in and of itself could, over time, cause a shift in these variables, the non-users and users in the present study had been using substances for an average of 17.9 years, while abusers and dependents reported using substances for an average of 20.7 years--suggesting that length of substance use is not linked with *changes* in the aforementioned factors.

Perhaps one of the most important implications however, is that if indeed these differences in user-status can be considered as distinct personality types that tend to remain stable over time, this composite or profile of non-users, users, abusers, and dependents can be a powerful and valuable tool for helping to predict who will have adverse tendencies with regard to substance use, long before the behavioral problems arise.

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